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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/778,992	02/07/2001	Ross Halgren	41761/DBP/C664	2391

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CHRISTIE, PARKER & HALE, LLP  
350 WEST COLORADO BOULEVARD  
SUITE 500  
PASADENA, CA 91105

EXAMINER
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PAYNE, DAVID C

ART UNIT	PAPER NUMBER
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2633

DATE MAILED: 11/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/778,992

Applicant(s)

HALGREN, ROSS

Examiner

David C. Payne

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 07 February 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 February 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5. 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
- 3.
4. Claims 1-7 recite the limitation "second electronic to optical interface" in claims 1 and 5 respectively. There is insufficient antecedent basis for this limitation in the claim. Since there is no "first electronic to optical interface", these claims lack antecedent basis. The examiner notes that the limitation "first optical to electronic interface" that precedes the limitation in question does not provide antecedent basis since the device operates differently than the one in question.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

- (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or
- (2) a patent granted on an application for patent by another filed in the United States before

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the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1, 2 and 7 (insofar as they understood based on 112 2<sup>nd</sup> paragraph) is rejected under 35 U.S.C. 102(e) as being anticipated by Bala et al. US 6,272,154 B1 (Bala).

Regarding claims 1 and 2, Bala disclosed (Figure 2)

An optical switch comprising: at least a first demultiplexer for demultiplexing a series of wavelength division multiplexed signals into corresponding spatially separated demultiplexed signals

(210, e.g., col./line: 5/1-6);

a series of first optical to electronic interface units interconnected to said spatially separated demultiplexed signals, including: optical to electronic conversion means for converting input optical signals to corresponding electrical signals;

(252, e.g., col./line:6/15-20)

data and, clock recovery means for recovery of data and corresponding clocking information from said electrical signal and outputting said data as a first data stream, said data and clock recovery means being able to recover data streamed at multiple different clock rates; (254a, e.g., col./line: 6/34-36)

an electronic switch for transmitting said data stream to one of a series of output ports under the control of an external control signal;

(255, e.g., col./line: 6/14-20 )

a series of second electronic to optical interface units at said output ports, including: data and clock recovery means for recovery of data and corresponding clocking information from said electrical signal and outputting said data as a second data stream; (254c, e.g., col./line: 6/34-36 )

electronic to optical conversion means for said data stream to a corresponding optical stream; (258, e.g., col./line: 6/45-51 ) and

at least a first multiplexer interconnected to a plurality of optical interface units for multiplexing the optical stream of each interface unit together to form a combined optical data stream output.  
(230, e.g., col./line: 5/45)

Regarding claim 7, Bala disclosed

A fault tolerant switching unit including a first and second switch each interconnected to the same first demultiplexing unit and first multiplexer so as to provide fault tolerant operation of said switch  
(see Figure 4, e.g., col./line: 6/29-33).

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 3 and 4 (insofar as they understood based on 112 2<sup>nd</sup> paragraph) are rejected under 35 U.S.C. 103(a) as being unpatentable over Bala et al. US 6,272,154 B1 (Bala) in view of Johnston, Jr. US 6,101,204 (Johnston).

Re claim 3, Bala does not disclose a switch wherein said electronic to optical conversion means comprises an externally modulated semiconductor laser having wavelength specific output characteristics. Johnston disclosed externally modulated lasers. It would have been obvious to one of ordinary skill in the art at the time of invention to use externally modulated laser in the Bala invention for the benefit of obtaining wavelength as well as amplitude modulation as disclosed in Johnston (e.g., col./line: 2/9,10).

Re claim 4, Bala does not disclose a switch wherein said electronic to optical conversion means comprises a directly modulated semiconductor laser having wavelength specific output characteristics. Johnston disclosed directly modulated

lasers. It would have been obvious to one of ordinary skill in the art at the time of invention to use a directly modulated laser in the Bala invention for the benefit of obtaining much reduced or zero wavelength modulation as disclosed in Johnston (e.g., col./line: 2/10-12).

9. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bala et al. US 6,272,154 B1 (Bala) in view of Wang et al. US 6,556,352 B2 (Wang).

Re claims 5 and 6, Bala does not disclosed a fiber laser array wavelength matched to the output wavelengths of a first multiplexer. Wang disclosed a laser fiber array (e.g., col./line: 8/25-45). It would have been obvious to one of ordinary skill in the art at the time of invention to use the Wang fiber laser array in the Bala invention for the benefit of efficient coupling between the lasers and the fiber in the Bala invention, as disclosed by Wang, see above. Furthermore, it would have been obvious to match the lasers output wavelengths to the wavelengths of the multiplexer for the benefit of efficient coupling and minimal loss.

### ***Conclusion***

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10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Bala '799 disclosed a hybrid wavelength-interchanging cross-connect with laser arrays.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David C. Payne whose telephone number is (703) 306-0004. The examiner can normally be reached on M-F, 7a-4p.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (703) 305-4729. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Dcp

  
JASON CHAN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600